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Differentiated instruction with middle school gifted students

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DIFFERENTIATED INSTRUCTION WITH MIDDLE SCHOOL GIFTED STUDENTS

A Thesis

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ABSTRACT

The education of all students is important in the school system, however, all students learn differently and are at different levels. One strategy that is used to cope with this issue is differentiated instruction. Differentiated Instruction is when you teach to the individual student's needs by pre-assessing and determining those needs. If the student already knows the information you need to move onto something more challenging for them. Often times gifted students already know the information, since they do come into each grade knowing 50% of the curriculum, but quite often they are taught it again (Rogers, 1991).

Research within this study was done to determine how often differentiated instruction is being implemented since it is a strategy that is proven to be successful based on research (Tomlinson, 2003). The participants, who were teachers at Mira Loma Middle School, were given a descriptive survey to answer about the strategies that they use in their classroom. The results were analyzed using despcriptive statistics and frequency tables.

After analyzing the data, the results indicated that overall differentiated classrooms were only slightly more

likely to be found than traditional classrooms. Data also indicated that teachers with credentials implemented differentiated instruction more often than non-credentialed teachers and also teachers that could identify their gifted students also implemented differentiated instruction more often than teachers who could not identify their gifted students.

The research that was done indicates that gifted students are being neglected a good education quite often. Many teachers are teaching to one group of students, who usually consists of average students and gifted students do not fall within this range.

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CHAPTER ONE

INTRODUCTION TO THE STUDY

Background

Teachers are facing more and more challenges with teaching their students in today's society due to the students' diversity. A few areas of vast diversity include student's needs, backgrounds, and learning styles. Student's needs range anywhere from needing a pair of glasses to needing a parent-figure in their lives. Students also come from a variety of different backgrounds. There are students coming in from countries that do not require them to go to school and from countries that do not speak English. There are also the students that come from families who highly value education. Every student also has a different learning style and yet the teacher is supposed to deliver information to them all within a limited amount of time.

Educators now know much more about their students' lives and the effects that their differences have on their education than in the past, yet the educators are still forced to teach every student the same rigorous curriculum,

also known as the state standards. Many teachers are still unsure about how to do this with their class.

Heacox (2002) states that differentiated instruction is a good solution to educator's dilemma. "It is based on the best practices in education. It puts students at the center of teaching and learning. It lets their learning needs direct your instructional planning."

Statement of the Problem

In today's society, education is focusing on improving students' test scores in any and every way possible. Test scores have revealed that overall students who are English language learners (ELL) and students who are in special education have the lowest test scores on average, therefore, most of the attention about improvement has been put mainly on those two areas.

There are many other sub-groups that need attention on improving their education as well, one of which is the students involved with gifted and talented education (GATE). The researcher feels that these students are getting neglected in schools. They are a minority in schools and the teacher usually teaches to the majority. It seems as though the focus is on improving the students

at the bottom, with the least knowledge, and let the students at the top, with the most knowledge, fend for themselves. When in reality, every student should be getting the best education possible. One way to improve every students' education, which will also improve their test scores is by using differentiated instruction. This will insure that every student is learning.

Purpose of the study

The research that has been done is going to be added to the knowledge base that is already within the field. It will assist future researchers in the area of differentiated instruction with GATE students. The purpose of the study is to determine if students that are gifted are getting the education that they should be receiving. This information along with further research can aid in future regulations made about the education of GATE students. This information will also help educators recognize areas that need to be improved and goals for the future that can be made and regulated by administrators.

Theoretical Bases and Organization

Differentiated instruction is designed to enhance learning for all students. Heacox (2002) states, "It

engages them in activities that better respond to their particular learning needs, strengths, and preferences."

Differentiated instruction provides the students with choices to make about how to prove that they have mastered the content. Choices allow for a larger number of students to be successful due to different strengths that the students bring with them. It also enables students to be able to work in a variety of instructional formats, which will allow them to be more flexible in the 'real world.'

Not only does differentiated instruction make the classroom a much more enjoyable and successful environment for the students, it also allows for the teacher to cover more material with each and every student when compared to whole class instruction.

Limitations of the Study

The following limitations apply to this design:

1. There was a small sample size.
2. Data relied on truthfulness of teachers' answers.
3. Numerous questionnaires were encountered that were incomplete.
4. Teachers were selected from a limited geographical area.

5. There were a limited number of participants representing ethnic minorities.
6. It was unknown how many gifted students or if any at all were in the classrooms' of participants that were surveyed.
7. The survey questions were not specifically directed on differentiating instruction with gifted students, instead they were generalized to what is done with the entire class.

Definition of Terms

For this study, the following definitions apply:

1. GATE-gifted and talented education, which is determined by process used by Jurupa Unified School District, consisting of a parent and a teacher survey about behavior of the child and then followed by a psychological assessment performed by a psychologist
2. ELL-English language learners
3. CLAD-crosscultural, language, and academic development
4. SPSS-Statistical Package for the Social Sciences

CHAPTER TWO

LITERATURE REVIEW

Introduction

Teachers in today's classrooms teach in a variety of different ways and use a variety of different strategies. Teachers also have a large variety of students within their class; multiple languages, different abilities, variety of ethnicities, and different genders. Teachers struggle trying to figure out what to do about this issue and there is not one correct answer found, there are only philosophies.

"Research on learning to teach academically diverse learners is scant. The research has focused on how teachers make decisions about what and how to teach the whole class, rather than on making decisions for different types of learners" (Megay-Nespoli, 2001). However, in today's society, the focus is changing to figuring out how to meet individual student's needs, which is known as differentiated instruction.

Differentiated instruction is a phrase that gets talked about quite often in education, but rarely implemented, especially with gifted students. Studies have

shown that differentiated instruction increases all students' achievement when it is done properly. "All students are capable of manifesting higher levels of performance if they can learn and apply content in a way that matches their strengths" (Smith, 2003). That is where the frustration comes into play, how does one do it properly? How does an educator know what a student's strength is? There is not a recipe set up to use, instead there are recommendations and strategies, but the teacher has to figure out what works for each student.

Within education we have known that "successful teaching requires two elements: student understanding and student engagement" (Tomlinson, 1999). Now differentiated instruction can assist in capturing those two elements.

In the article, *Different Learners, Different Lessons,* Tomlinson states her philosophy, also the philosophy of a large number of educators, which captures the idea of differentiated instruction:

> So it is with teaching—neither to mourn what we have not done nor to rest on our victories, but to look at all the reasons we have to show up again tomorrow at the classroom door, ready to

join our student—all of our students—in learning (Tomlinson, 2002, p.25).

What is Differentiated Instruction?

Differentiated Instruction is one of the many different strategies that teachers use in their classroom in hope of delivering information to all of their students. This philosophy is becoming very well known in education today with special education students and English language learners. However, "differentiating is not new, the concept has been around for at least decades for gifted and talented students" (Theroux, 2002). Even if differentiated instruction is being used to help the needs of 'special' learners, it has been found that the skills of all learners are improving by a larger amount compared to classrooms when differentiated instruction is not being used (Manthey, 2002).

Differentiation can be done by using many elements or by using different strategies. Tomlinson claims, "Differentiation is not so much the 'stuff' as the 'how.' If the 'stuff' is ill conceived, the 'how' is doomed" (Tomlinson, 1999). Besides the 'how' or the process being differed, you could also differ the environment, the

product, and on occasions the 'stuff' or the content. "Most teachers who differentiate do not do so at all times. They differentiate only when they see a specific need" (Smutty, 2003). A specific need could be known by using a pre-assessment, observation, or by knowing the knowledge base of your students.

Differentiated instruction is being used in special education, however, it's application within general education is scarce. General education is the area where the largest varieties of students are found and it is where differentiated instruction is needed the most. In the article, *Scaffolds to Learn to Read in an Inclusion Classroom,* the authors state that one characteristic of general education is undifferentiated reading instruction, which means that all students, regardless of their disability status, participate in the same reading practice (Silliman, Bahr, and Beasman, 2000). This should not be a characteristic of general education, something needs to change.

Elements that can be Differentiated

Content/topic. Content or topic is one area that can be differentiated within the classroom. This area consists of what the student needs to learn or how the student will

get access to the information (Tomlinson, 2000). Some students will need this modified to be able to just learn the basics, whereas other students already know the information and need a more challenging topic, which is the case with most of the gifted students. The content could be modified to have the student learn more about the topic than the rest of the students or one could change the topic altogether if they have already mastered it.

Process/activities. Process or activities is another area that can be differentiated within the classroom. This area consists of activities in which the student engages, in order to make sense of or master the content (Tomlinson, 2000). It also deals with the process in which you teach the content, for example different processes include cooperative groups, direct instruction, simulation, etc.

"Even though students may learn in many ways, the essential skills and content they learn can remain steady. That is, students can take different roads to the same destination" (Tomlinson, 1999). As long as the objective is mastered, it does not matter how it is done.

Products. Products is a third area that can have different effects for different students depending on their abilities. For example, a less able student could simply

retell a story while a gifted student could analyze or synthesize a story. Both assignments could be completed in the same amount of time and should be the same amount of work for both students.

Learning environment. The fourth area that can be modified is the learning environment. This would include the way the classroom works and feels (Tomlinson, 2000). It would include daily routines and procedures, the way that the class is set up, and the emotions that are displayed in the classroom.

Strategies that can be Used in the Classroom

When teachers use an inclusive process rather than an exclusive program, all children will benefit from instruction that is directed toward their level (Callard-Szulgit, 1998). The following are strategies that can be used within an inclusive classroom.

Readiness and ability (Theroux, 2002). This strategy is used by continually assessing students and always knowing what level they are at. If they have mastered a standard or an objective then you need to move them to something new based on their ability level. This is especially important when your students are working in groups.

Adjusting question (Theroux, 2002). During discussions, direct higher-level questions to students who can handle them. Use bloom's taxonomy: knowledge, comprehension, application, analysis, syntheses, and evaluation for all of the different leveled students within your classroom. Vary complexity of questions during quizzes and tests for students with different abilities as well.

Compacting curriculum (Theroux, 2002). "Curriculum compacting means eliminating, accommodating, and enriching and/or accelerating learning for a student in a particular subject" (Troxclair, 2000).

A teacher can give alternate assignments to students who have already mastered the curriculum demonstrated on pre-assessments or you could have them learn the content in greater depth if it is of interest to the student.

Tiered assignments (Theroux, 2002). Tiered assignments would consist of a series of assignments that are more challenging as you get farther along in the series. All of the assignments are designed to meet the essential understanding and key skills that students need to acquire. When using this strategy you would place students at a level that fits their need as demonstrated by

a pre-assessment. Some students would start at the beginning and only get through a few of the assignments while others would start closer to the top and may get through only one assignment of a higher complexity.

Acceleration/deceleration (Theroux, 2002). Acceleration or deceleration with a class would usually be done with a small group of students or a single student that needs it. It is not designed for use as a whole class strategy, which is what teachers normally do. Acceleration is when you would speed up the curriculum and deceleration is when you would slow down the curriculum. When slowing down the curriculum you would also supplement with more practice to ensure that the objectives are being mastered.

Flexible grouping (Theroux, 2002). When using flexible grouping you would differentiate groups for different assignments and subjects to ensure that a student is being challenged at times and also feeling like a leader at other times. Flexible grouping is highly preferred in comparison to ability grouping. Often ability grouping causes controversy (Borland, et al., 2002).

Peer teaching (Theroux, 2002). Peer teaching is a strategy that should only be used on occasion. Students obtain mastery of their knowledge by teaching it to other

students. On occasion students learn better from their peers than from their teacher. However, you need to keep in mind that all students need to be learning new information and if the information is already mastered, do not waste their time by using them as an aide. Gifted students often get put in this situation when in reality they should be learning new information.

Learning profiles/styles (Theroux, 2002). All students are different and learn in different ways. There are eight different intelligences that are known as Gardner's multiple intelligences (Heacox, 2002). Students can learn using every different intelligence, however, they tend to have strong inclinations toward a particular kind of learning style. The eight intelligences include verbal/linguistic, logical/mathematical, visual/spatial, musical/rhythmic, bodily/kinesthetic, interpersonal, intrapersonal, and naturalist. Most content can be learned using any one of these intelligences and could easily be manipulated to fit a student's strength (Smutny, 2003).

Student interest (Theroux, 2002). Interest surveys are often used for determining a student's interest. This information can be used when needing to challenge a student that has already mastered the standards.

Independent study projects (Theroux, 2002). Many students have the ability to fulfill projects or do research on an assigned topic or a topic of choice. This would also be an alternative that could be used with gifted students when they already have mastered the standards before you have taught them.

Buddy-studies (Theroux, 2002). Have students work with partners on projects to deplete the workload. This is a strategy that works well when students have similar interests or if they have strengths in different area.

Learning contracts (Theroux, 2002). This usually consists of an individual curriculum set up between the teacher and the student. It would include short and long-term goals that the student would be working on. This is an easy way to keep track of the student's progress over a period of time. "Our learning contracts consisted of a variety of assignments, readings, projects, and learning extensions for students. Students selected activities that suited their interests and signed the contract in an agreement between teacher and learner" (Fahay, 2000).

Administrative Strategies

There are numerous different techniques that administrators use to account for the differences between gifted students and the rest of the population.

Pull-out/resource room. Pullout or use of the resource room is one strategy that has been used. This strategy allows all gifted students to be in one place at one time. It also allows the teacher to teach some enrichment activities that challenge their minds. However, there is one big downfall to this approach. The students are taken out of one of their six core classes. They are missing instruction that they need to be successful in their classes in order to attend an enrichment activity. In the article, *Supporting Advanced* Learners, Hulse(2002) claims that within the middle school level it is important to use differentiated instruction because pullout programs cause more of a disruption to an education than an enhancement.

Special classes. Many times gifted students are placed in special classes such as honors, college prep, or advanced placement classes. These classes are designed to go faster than regular classes and/or be more challenging. There is usually more work within these classes and as the

students would say, they are much 'harder.' The downfall with these types of programs is students don't want more work; they would rather act as if they were low ability students so that they could get into the easy classes.

Another problem is that these classes are usually designed for students that want to attend college and just because you are gifted does not necessarily mean that you are going to attend college.

Cluster grouping. Cluster grouping is a strategy that administrators use when making the master schedule. They put four to six students within the same classroom with a teacher that has had some special training. This strategy is probably the easiest strategy to implement for the administrator. They make the schedule and the rest is left up to the teacher for the rest of the year. The problem with this is that some teachers don't do anything with these students and when they do, often times they just give them extra work instead of giving them more challenging assignments even when they do have special training.

Full-time gifted services. Under this strategy, the administrators design a class that consists of only gifted students. Students are placed with other gifted students all day with the possible exception of specialty classes

such as art, music, or physical education. This sounds ideal if there are enough students at one site to make up a class, however, it may have to consist of at least two different grade leveled students. The downfall with this strategy is that when gifted students are placed with other gifted students their self-esteem is lower than when they are placed in a regular classroom (Holloway, 2003). However, they would also learn a lot more information when placed with higher ability students.

Mentor. Another way that administrators deal with gifted students is by giving them a mentor. Their mentor would be somebody with whom they share similar interests, personal values, skills, or talents. This person could be a staff member at the school site or somebody in local community that is willing to spend time with a student. This program could be very successful if the student and the mentor both buy into the program and really get along, however, if the opposite occurs it could be a waste of time.

Characteristics of a Gifted Student

Gifted students have numerous common characteristics, however, not all gifted students display each and every

characteristic. They are individual people who are very different from one another in some ways and very similar to one another in other ways. Past literature states that people have gone from treating gifted students as a group to treating them as individuals to comparing them to students in other groups (Olenchak, 2001). In reality all of these students have their very own individual personality. The characteristics that are discussed are true about the majority of the gifted students.

> The national definition of gifted students is: Children and youth with outstanding talent perform or show the potential for performing at remarkably high levels of accomplishment when compared to others of their age, experience, and environment. These children and youth exhibit high performance capability in intellectual, creative, and/or artistic areas, possess an unusual leadership capacity, or excel in specific academic fields. They require services or activities not ordinarily provided by the schools. Outstanding talents are present in children and youth from all cultural groups,

across all economic strata, and in all areas of human endeavor (National Excellence, 1993, p. 26)

Gifted children are found in all segments of society including all socioeconomic backgrounds, geographic areas, cultural backgrounds, and in children with other special needs. Gifted children are as different from each other as they are from the typical child. "Gifted children represent approximately the top 3-5% of the total school population" (Winton and Schwartze, 2001).

When gifted children are in the classroom there are some big differences between them and the regular students in the class. One difference is that gifted students usually earn higher scores on standardized tests, which has led to the erroneous assumption that they must be learning, when in reality they already knew the information (Winebrenner, 2000). Gifted students have often mastered as much as 50% of the material to be learned in a given school year before the year begins, which means that often, much of their time in class is wasted (Rogers, 1991).

Another major difference is that gifted students usually do better in different subjects, some have strengths in math and science, others in English and social studies, others in the fine arts, and others are good at

every subject. As said in *Nurturing Giftedness in Young Children,* "It is important to remember that these children very often do not develop evenly. In fact, young gifted children frequently show peaks of extraordinary performance rather than equally high skill levels in all cognitive areas" (Roedell, 1990).

When gifted students have a high ability in math, their estimation ability is usually about the same level as the other students (Van Garderen and Montague, 2003). When they have high levels of ability within mathematics the credit has been given to their use of more visual-spatial representations than other students, which is a strength in gifted students (Van Garderen and Montague, 2003).

Within the middle schools there are also some negative differences. Studies show that between the grades seven through nine, gifted students experience academic vulnerability, with seventh grade showing evidence of the greatest number of underachievers (Rayneri and Gerber, 2004). This information reiterates the fact that gifted students within their own population are very different from one another. You have students who are overachievers and especially in middle school you have gifted underachievers.

Gifted students also learn differently than regular students. This is information that the teacher should know or will quickly find out. There are five main differences. First of all, they learn new material much faster than the rest of the class. Secondly, they are able to remember what they learned more quickly. Another difference is that gifted students are able to perceive ideas and concepts at more abstract and complex levels. They also become passionately interested in specific topics, which is why interest surveys are useful with gifted students. Lastly, they can operate on many levels of concentration simultaneously, which means that they are multi-taskers (Winebrenner, 2000).

In spite of these numerous differences between gifted students and other students in the classroom, recent studies have revealed that educational accommodations remain nebulous at best and nonexistent at worst (Olenchak, 2001).

Gifted students also are unique in other aspects of their lives such as recreation. When they reach the middle school age gifted students may participate in multiple social and recreational activities and over schedule their lives leaving little time to think (Kerr, 1990). They have

the desire to stay busy. Often times gifted students are misdiagnosed as having Attention Deficit Hyperactivity Disorder because of the abundant amount of energy that they have. Other reasons include poor attention, boredom, daydreaming, low tolerance for persistence on tasks that seem irrelevant, judgment lags behind development of intellect, intensity may lead to power struggles with authorities, and they tend to question rules, customs and traditions (Webb, 1993).

Another area that gifted children differ in is their social life. There is a myth that gifted children are better adjusted, more popular, and happier than average children. The challenging reality is that more frequently, nearly the opposite is true (Freedman and Jensen, 1999). Being gifted makes students feel pressured to perform better and at a higher level than other students, which in turn causes problems. Within the article, *Helping Adolescents Adjust to Giftedness,* the authors state:

> Young gifted people between the ages of 11 and 15 frequently report a range of problems as a result of their abundant gifts: perfectionism, competitiveness, unrealistic appraisal of their gifts, rejection from peers, confusion due to

mixed messages about their talents, and parental and social pressures to achieve, as well as problems with unchallenging school programs or increased expectations (Buescher and Higham, 1996).

Identification Plan for Gifted Students

According to the National Excellence report, a defensible identification plan to use would include the following characteristics:

- Seeks variety-look throughout a range of disciplines for students with diverse abilities.
- Uses many different assessment measures-uses a variety of appraisals so that schools can find students in different talent areas and at different ages
- Is free of bias-provides students of all backgrounds with equal access to appropriate opportunities
- Is fluid-uses assessment procedures that can accommodate students who develop at different rates and whose interest may change as they mature

- Identifies potential-discovers talents that are not readily apparent in students, and
- Assesses motivation-takes into account the drive and passion that play a key role in accomplishment (National Excellence, 1993, p. 26).

Implementing Differentiated Instruction with Gifted Students

"There is no recipe for differentiation" (Tomlinson, 2000). There are ideas and recommendations to follow to help successfully implement differentiation in the classroom, but there is not a step-by-step procedure to follow. This is the main reason that differentiated instruction is lacking in so many classrooms.

In the classroom there is such a wide variety of ability within the students that the only way to reach them all in every subject matter is by using differentiated instruction properly. When a teacher combines the standards and differentiated instruction with gifted students it achieves two goals. It provides a rich and rigorous curriculum for the highly able while it also meets

the standards set by the state (Gould, 2000). This is what all of our students, especially the gifted students, need. Teachers have been faced with many demands in recent years. This makes it difficult to change anything in fear that it might set you back. "Classroom teachers must reconcile the demands of curriculum, pacing, and readiness with cultural diversity, high-pressure testing, and accountability" (Kapusnick and Hauslein, 2001). Which leaves no time for trying new ideas.

In an action research study, Hughes(1999) found that providing differentiated instruction and assessment opportunities is the best way to meet the needs of the gifted population within a general education classroom. This is easier said than done. Teachers know what they need to do; now they want to know how to easily implement it into their classroom.

One strategy that has been used to meet the needs of gifted students is the design of magnet schools. These schools are supposed to be more challenging for intellectually ready students. Studies have still found high levels of autonomy in magnet schools and less standardized curricula, however, their curriculum practices are nearly identical (Hausman and Brown, 2002). There is

still minimal differentiated instruction being practiced, which means that the majority of gifted students are still not being challenged in these settings.

What does differentiated instruction do for the gifted students? In the article, *Differentiation of Instruction in the Elementary Grades*, Tomlinson(2000) claims that, "It promotes high-level and powerful curriculum for all students, but varies the level of teacher support, task complexity, pacing, and avenues to learning based on student readiness, interest, and learning profile." However, in order for differentiation to be successfully implemented there should be support and the development of teachers' understanding of gifted educational practices so that the teacher can assume the responsibility for the gifted child's education (Page, 2000). Otherwise, there is a misunderstanding about the students' abilities before the differentiation even starts, which would definitely lead to difficulties in becoming a successful differentiated instructor.

In implementing differentiated instruction, it is recommended that you begin with a written, personal mission statement that states exactly what you want to accomplish by using differentiated instruction with gifted students

(Baker, 2004). Keep that goal close in hand to refer back to throughout the process. Modification can be made if need be.

After proper training about teaching gifted students and about their characteristics has been implemented, then the process of implementing differentiated instruction may begin. In the article, *Enhance Learning with Techno*, Theroux(2002) claims that the process of differentiated instruction begins with student assessment, followed by development of intrinsic motivation, and finally clarification of the concept of fairness. The aspect of beginning instruction with assessment is the same as any instruction, however, development of intrinsic motivation is where problems could arise and teachers will encounter confusion. The third step is very important, however, it is often skipped, which results in problems later. If fairness is exemplified and differences explained from the beginning the students will not have as many debates about why some students are receiving different assignments than other students. This clarification should be much more than just one quick conversation; there needs to be plenty of time set aside for this issues when implementation is just beginning.

Pettig(2002) has some additional ideas to increase the chances of successful implementation of differentiated instruction. Pettig claims, in the article, *On the Road to Differentiating Practice,* that one way that implementing differentiating instruction has been successful is by getting a buddy, aligning your objectives, finding out what your students know, planning flexible grouping, encouraging student responsibility, and finally providing choice. Having somebody as a buddy to work with as you go through the process is always helpful, whether it is somebody with experience or somebody just starting the process. Having them there to talk to and share ideas would be beneficial. Aligning your objectives and pre-assessment should be done in any strategy of teaching that is used in the classroom. Another thing that is important is that when using differentiated instruction flexible grouping is necessary as opposed to permanent grouping due to the fact that all students have different strengths, weaknesses, and rates of improvement. The development of intrinsic motivation needs to have happened prior to implementation of differentiated instruction and lastly the students need to have the opportunity to choose.

Once implementation has started, one easy and cost efficient strategy to include is using a variety of thinking skills with the students. For example, teachers could have gifted students analyze a piece of work, whereas some of the other students might just be summarizing the work (Johnson, 2001). One thing to keep in mind when beginning this new strategy is to "make activities different; don't just add more of the same" (Wehrmann, 2000). Otherwise the students will see the difference and chose to act as if they are not as highly able as they really are. The goal of differentiated instruction is to keep the students challenged, not give them more work.

When implementing differentiated instruction in the classroom the instructional contexts change, however, a few elements stay the same. There are still specific, measurable outcomes for the activities. Students still know the expected outcome before they begin their task. Students also know how they will be evaluated before they begin their tasks and the class still comes together initially as a whole class (McCullen, 2003).

Differentiated instruction works well when it is a school goal. Once all of the staff members at a particular site share a common set of values and beliefs and embrace

the task of educating all students, it is a better place for everyone (Delmore, 2003).

Expected Difficulties to Encounter

Differentiated instruction can be a difficult process to begin implementing if proper training has not been implemented. There are numerous different resources available to help guide a teacher through the process, but even with resources and training the teacher should expect to encounter some difficulties, as is the same with any new skill that is tried in the classroom. With time, all of the major flaws will get ironed out.

There are a couple of different things that the teacher can do when beginning implementation of differentiated instruction. As Tomlinson(2000) states in *Differentiation of Instruction in the Elementary Grades*, "One challenge for teachers leading a differentiated classroom is the need to reflect constantly on the quality of what is being differentiated". The teacher should reflect on their practice on a daily basis in order to see improvement with instruction. They should think back over the entire day about what worked, what didn't work, and what they want to try in the future to make their

instruction even better. Thomas (2003) claimed that when something goes wrong or you have failed, you seriously examine what happened so that you can learn from the experience.

Another major difficulty that is encountered in the implementation process is that the teacher gets overwhelmed. This process takes a lot of thought and planning to initially be successful. There is time spent in planning lessons, training your students, discussing the aspect of fairness, assessing your students, and so on. McCullen(2003) feels that the two main reasons that teachers don't differentiate instruction are because of time and resources.

Another issue that gives the teacher a feeling of being overwhelmed is stated in the article, *Including Students with Disabilities in the Regular Classroom.* Strosnider and Lyon(1997) states that "The problem for the general educator seems to be managing the accommodations and adaptations needed" (Strosnider and Lyon, 1997). In a general education, middle school class the teacher has up to 35 students per class and usually has 5 classes. This is a total of 175 students. Knowing what accommodations

and adaptations are needed for all of those students at all times is difficult, however, there are ways to do it.

There are also other difficulties that teachers run into when they are beginning to use differentiated instruction within their classroom. One problem is that they do not know how to modify the content. Others do not believe that there should be any modifications made for high achieving students. There are also the teachers that cannot find the time to modify the content for the high achievers. The main focus in today's society is differentiating instruction for low achievers and the gifted students are getting neglected.

Some teachers feel that there should not be modifications for high achieving students. This belief comes from teachers and from students for whom differentiated instruction is interpreted and implemented wrongly. In an interview with a young, student named Amanda, who clearly had a teacher that did not properly implement differentiated instruction, Olenchak (2001) quotes Amanda as saying, "Schools make it easier to be stupid than gifted—maybe that is where I should head and wait until I am done with school to use what God gave me." Amanda was a student who was required to do all of the work

the regular students did, but was then assigned additional work on top of that. Differentiated instruction does not mean giving more work to the students, but instead making the work different, more or less challenging.

When differentiated instruction is not used with gifted students you will hear them saying that they are bored. "When students say that they are bored, what they frequently mean is, I don't see where this is going, or, I don't think that I can do this well" (Strong, Silver, Perini, and Tuculescu, 2003). It could also mean that the students already know the information. In a general education classroom you don't want the students to be bored. If they are bored, more than likely learning is not happening.

Another issue that has been encountered is that the teachers are not properly trained. In order for differentiated instruction to be successful, two events must occur. First of all the universities need to be training teachers in this area before they get into the field and secondly the school leaders must provide support, encouragement, and nurturing (Holloway, 2000).

Understanding what impedes and what facilitates appropriately differentiated instruction is

> essential for education leaders if schools are to move away from the one-size-fits-all teaching and if heterogeneous classrooms are to become viable for 'academic outliers' such as gifted, struggling, and special education learners (Tomlinson, 1995, p.77).

Differentiated instruction can be successful within every classroom and many of these difficulties can be avoided. There should not be discouragement, but instead, there should be awareness about what could happen in the process. Awareness about what could happen and awareness about what needs to be done before implementation will diminish a lot of the problems that could arise.

Using Data to Determine Outcomes

At a Redlands, California Elementary School, a teacher has been using data to determine her class's success with differentiated instruction. The teacher first started out by designing a big picture of the assessment results that the students bring with them. Next, the scores were put into a spreadsheet. The next step in the process was setting up goals with the students and their families at parent conferences. Finally, at the end of the year the

new test scores are input. At the end of the past year, 74 percent of her students passed the reading assessment with an overall gain of 27 percentage points higher than the previous year's test results. There were 58 percent of her students who gained at least 5 percentage points in math compared to the previous year. Science also had growth, as 74 percent of the students passed with at least 32 percentage points higher and in social studies 58 percent of the students test scores increased at least 24 percentage points. The teacher attributes the improvement in test score results to the use of pre-assessment, self-assessment, and ongoing assessment to differentiate instruction for individual learning needs (Tomlinson, 2003).

The above described process could be used within any classroom that is using differentiated instruction. This would enable a teacher to have data indicating the process of differentiated instruction is or is not working within their classroom.

State and Federal Regulations

The State and the Federal governments have been pressing the issue about increasing test scores of all

students. They have also designed standards that must be taught to the students when they are at a certain grade level. These regulations are taking the fun out of education and teaching for many educators.

Within the article, *Gifted Education, Making a Positive Difference,* the author states,

> Nationwide, a call has been issued to raise the academic performance of all students….In order to express commitment to high levels of achievement for all learners, local school districts should adopt a goal of appropriate learning services for gifted students, as well (Winton and Schwartze, 2001).

There are numerous different ways that schools are dealing with the diversity today. With the pressure from the State and Federal governments about standards and test scores, the diversity of the student populations are being neglected in some schools.

> Schools are responding to the struggle between standardization versus diversity in many ways. Some are resorting to tracking,…a few pay attention to those learners on the cusp of passing tests,…smaller classes to address

differences,…and along comes a new (but at least as old as the one-room school) strategy called differentiated instruction (Scherer, 2000, p. 5).

Many educators feel that there should be a mandate stating that gifted students should receive an education at their level, which would be differentiated instruction. "Although a mandate would not guarantee adequate programs for the gifted, the lack of a mandate almost assures certain kinds of problems. Most of these problems relate to access to programs or to the quality of programs" (Irvine, 1991). There have been mandates for English language learners and also for special education students, and they have been implemented. Why have we left out the students with extremely high abilities?

Differentiated instruction needs to happen with gifted students within the general education classroom, whether the teachers are required to or not. Troxclair (2000) claims, "Gifted students are spending more time in general education classes because of a loss of funding and support resulting from 'political priorities and competing paradigms' which are not particularly supportive of their unique needs."

On the other hand, while one author is claiming that general education does not support the needs of gifted students another author is claiming that they need to be mainstreamed.

In *Mainstreaming the Gifted*, McDaniel (2002) argues that the excellence-equity debate requires policy makers to consider again the democratic impetus toward mainstreaming: this time for the special population of gifted students. At some school sites these students are being placed in a classroom with all gifted students, which has been known to decrease their self-esteem.

The State and Federal governments need to determine what is best for the gifted population. They need to come up with a mandate that gifted students are placed in the most appropriate setting for their needs and the proven and resulting placement should be regulated.

CHAPTER THREE

METHODOLOGY

Design of the Investigation

The following was done as a quantitative study. The researcher wanted to determine whether all students, especially GATE students were receiving the education that they should be.

The first step that was done was a review of the related literature. There was not any research found in regard to the number of teachers that implement differentiated instruction, however, there was research found that showed how successful it is when implemented properly. Tomlinson (2003) claims that a group of students on average increased test scores in all areas in comparison to their previous year of schooling after a year of differentiated instruction. After finding how successful students are when differentiated instruction is implemented, the researcher chose to find out how many teachers were implementing this strategy within there classroom using a descriptive survey.

The descriptive survey was taken from Heacox (2002, pg. 19) and the researcher added a Likert-type scale (1 to

5) so that statistical analysis could be run on the results. A copy of the survey can be found in the Appendix.

Once the descriptive survey was designed it was passed out to a convenience sample at the site that the researcher was employed. It was put in all of the teachers' mail boxes at the school on a Tuesday and was asked to be returned by that Friday, which allowed those surveyed four days to complete it. By Friday the researcher had received 30 out of 40 of the surveys back and began analyzing the data.

Population and/or Sample

The sample used was a convenience sample. There were forty surveys passed out to the teachers at Mira Loma Middle School, which is also the place where the researcher is employed.

Mira Loma Middle School consists of a variety of different teachers. It includes members with a variety of different backgrounds including; ethnicity, age, education level, years of experience, gender, and teaching strategies. This site has a staff make-up is similar to

other middle schools throughout the country in terms of background information.

Data Analysis Procedures

When the researcher obtained the surveys back data analysis began. The first step was to code the data. Next, the data was entered into Statistics Package for Social Science (SPSS) for Windows: Version 11.01. The data that was entered included background information of the participants and their answers to the survey. The background information included gender, age, ethnicity, if they had a credential, if they had a CLAD credential, if they had a GATE certificate, and if they could identify the GATE students within their classroom. The answers to the survey were also entered and broken down into three different categories dealing with assessment, assignment, and teaching strategies.

After the data had been entered there were several analysis run on the information. The first report that was run was a descriptive analysis on all of the data. This delivered information including the number of participants for each area, the range of answers from minimum to maximum, the mean for each area, and the standard deviation. Using these numbers, a comparison was made

between the three different groups that the questions were categorized into (including assessment, assignment, and strategies). Based on the means of each category the data entailed the conclusions about what aspects of differentiated instruction is most often implemented.

The next report that was run was done to gather information about the participants with credentials compared to the participants without credentials. This was completed using descriptive statistics on both groups. These numbers were later compared.

Another variation of analyzing the data was done by gathering descriptive statistics comparing participants who could identify the GATE students in their classroom compared to participants who could not identify the GATE students within their classroom.

The final way that the data was analyzed was by putting all of the information into frequency tables. This information enabled the researcher to determine what the participants were made up of in terms of background and educational philosophies about their classroom.

CHAPTER FOUR

FINDINGS AND RESULTS

Presentation of the Findings

The data analysis results show that there were 30 participants involved in the study by the use of a survey. Of the 30 participants 26.7% were male and 73.3% were female. The participants' ages ranged from 6.7% falling between 21-30 years old, 40% between 31-40 years old, 36.7% between 41-50 years old, 13.3% between 51-60 years old, and 3.3% between 61-70 years old. The ethnicity make up of the participants was 83.3% Caucasian, 13.3% Hispanic, 3.3% Asian, and 0% African-American.

There was also information gathered about the participants' preparation for the education profession. This information informed the researcher that 83.3% of the participants had a credential of some kind and 16.7% were still working on getting a credential. Of all of the participants 36.7% had a CLAD credential and the other 63.7% either had a different kind of credential or no credential at all. The participants were also asked if they had earned a GATE Certificate. There were 6.7% of

them that claimed to have a GATE Certificate and 93.3% said that they did not.

The last piece of information that was gained about the participants from the survey was pertaining to their knowledge about their students. The participants were asked if they could identify the GATE students within their classroom and 70% claimed that they could and 30% said that they could not.

The survey questions were coded based on a Likert-type scale ranging from 1 to 5. One means that the description of the traditional classroom fit the participant well. The number two means that the description of the traditional classroom fit most of the time. The number three means that the participant felt that the descriptions of both the traditional and the differentiated classrooms fit them equally. The number four means that the description of the differentiated classroom fit them most of the time. Finally, the number five means that the description of the differentiated classroom fit them perfectly.

Analysis of the data using descriptive statistics, included means for each question on the survey. A copy of the survey can be found in the appendix and the data can be found in Table 1.

When the data was analyzed the following information was found. The first question pertained to the curriculum, it asked if covering the curriculum was the priority or if teaching to the students' needs was the priority. The mean answer to the first question was 3.3333, which means that teachers seem to base their curriculum a little more on students' needs, which is more of a differentiated classroom. The second question was about the learning goals that the teacher makes for the students; one side said that the goals were the same for all students and the other side said that you adjust the goals as needed for different students. The mean for the second question was 3.6667. Most participants within this sample are more likely to adjust their goals. The third question had a mean of 3.1. This means that participants felt that it was almost an equal priority to master content as it was to have the students critically and creatively think about how to apply the content. The fourth question talked about the resources that are available for students use. This question had a mean of 2.9667. This means that teachers are more likely to have a traditional classroom when it comes to resources for student use. The teachers are more likely to have their students all use the same resource

rather than matching them to an informational resource based on their learning needs.

The fifth question was about specific teaching strategies. It asked if the teacher was more likely to use whole-class instruction or if they use several different strategies. This question had a mean of 3.8, which was one of the highest answers that was received, this means that this is the area that most teachers are likely to differentiate. The next question was about how a teacher groups their students; if it is heterogeneously or if it is based on their learning ability. This question, which was the sixth, had a mean of 3.4333. This means that more teachers were grouping based on the students' needs rather than their gender. The seventh question's answers on the survey had a mean of 3.0667. This question was about the pacing of the curriculum. It asked if all students move through the curriculum together or if the pace of instruction varies depending on the student. The question had a median almost right in the middle, which means that either half of the teachers feel one way and half feel the other way or it could mean that it depends on what the teacher is doing whether or not the curriculum pacing varies.

Question number eight deals with student assignments and activities. It asks if everybody does the same thing or if the students get to pick based on their interests. The mean of this question was 3.0333, therefore, once again the answers were right in the middle, which means that about half of the time the students all do the same activity and the other half the time they get to decide. The ninth question deals with instructional strategies. It asks if the instructional strategies are varied day to day or if they stay the same. This question is very similar to question number five and the answer is also very high like number five, it had a mean 3.9667. This means that teachers are using different strategies day to day, which is like a differentiated classroom. The tenth question dealt with the completion of all activities. Whether teachers make all students complete all activities or if they complete different areas of assignments based on the students' needs. The answers had a mean of 2.8667, which means that most teachers make the students complete the entire assignment no matter what their needs or learning preferences are. The eleventh question asked teachers if all students do the same activities or if they allow for students to test out of work. The mean for this question

was 2.9. That means that more people make students do all activities even if they already know the material.

Question twelve asks what teachers use as enrichment activities; either more work or more critical thinking activities. The mean answer was 3.3333, which means that teachers use more critical thinking activities for enrichment, which is more like a differentiated classroom. The next question, which is number thirteen pertains to re-teaching. It asks if the teacher gives them more practice or if the teacher uses a different method of teaching to get the material across to the student. The mean for this question was 3.5667, which leads to an understanding that most teachers use a different method to re-teach material that is not understood. The next question is also about re-teaching, however this question asks if the teacher makes the material lower-level thinking or if the teacher demands higher level thinking. The answers to question number fourteen had a mean of 3.2333, which entails that most teachers use higher level thinking when re-teaching the material.

The next survey question talks about pre-assessment. It asks if the teacher assumes that the student has little knowledge before starting a unit or if they pre-assess the

student and find out what they know. The answer for number fifteen had a mean of 3.2667. Based on the mean, most teachers do some kind of pre-assessment to find out what their students know before they start teaching the material. Question number sixteen is also about assessment, this question asks if the teacher has one assessment at the end of a given time period or unit or if they continually assess the students to find out what they are learning. It had a mean of 3.8, which means that most teachers assess continuously throughout their teaching. The last question on the survey, which is number seventeen is also about assessment. It asks if the teacher uses the same assessment tool for everything or if they use a variety of different kinds of assessment. Number seventeen had a mean of 3.1667. This leads to the belief that more than half of the teachers use a variety of different assessment tools.

After the data had been analyzed as a whole, some of the questions were split up into categories including teaching strategies, how assignments are administered, and also how assessments are administered. The teaching strategies category was made up of questions 1, 2, 3, 5,

Table 1. Entire Sample Data

Survey Question	Mean[a]
1: Teaching Strategies	3.3333
2: Teaching Strategies	3.6667
3: Teaching Strategies	3.1000
4: Student Resources	2.9667
5: Teaching Strategies	3.8000
6: Student Grouping	3.4333
7: Curriculum Pacing	3.0667
8: Student Assignments	3.0333
9: Teacher Strategies	3.9667
10: Student Assignments	2.8667
11: Student Assignments	2.9000
12: Student Assignments	3.3333
13: Student Assignments	3.5667
14: Student Assignments	3.2333
15: Student Assessments	3.2667
16: Student Assessments	3.8000
17: Student Assessments	3.1667

[a]n=30

and 9. The assignment category was made up of question 8, 10, 11, 12, 13, and 14. The third category was the assessment category which included 15, 16, and 17. Descriptive statistics within these questions in each category show that teachers are the most differentiated in their teaching strategies followed by assessments and with the assignments category being differentiated the least.

The next comparison that was made of the data was between the answers given by participants that had credentials compared to participants who did not have credentials. There were some findings determined in the comparison. The majority of the questions had answers with a higher mean when answered by participants with credentials, however, there were a few exceptions. Based on the data, participants without credentials have a more differentiated classroom in regard to questions 5, 8, 9, and 15. Table 2 shows the comparison of the mean answers given by credentialed participants compared to participants who are not credentialed to each question within the survey.

Data obtained by the surveys were also analyzed to determine if the participants who could identify the GATE students in their class compared to the participants who

Table 2. Credential Identification

Survey Question	Mean[a]	Mean[b]
1: Teaching Strategies	3.4400	2.8000
2: Teaching Strategies	3.7600	3.2000
3: Teaching Strategies	3.2400	2.4000
4: Student Resources	3.0800	2.4000
5: Teaching Strategies	3.7200	4.2000
6: Student Grouping	3.3600	3.8000
7: Curriculum Pacing	3.2000	2.4000
8: Student Assignments	3.1600	2.4000
9: Teacher Strategies	3.8400	4.6000
10: Student Assignments	3.0000	2.2000
11: Student Assignments	3.0400	2.2000
12: Student Assignments	3.4400	2.8000
13: Student Assignments	3.5600	3.6000
14: Student Assignments	3.4000	2.4000
15: Student Assessments	3.0800	4.2000
16: Student Assessments	3.8000	3.8000
17: Student Assessments	3.2800	2.6000

[a]Participants with credentials, n=25

[b]Participants without credentials, n=5

could not identify the GATE students who were GATE within their class differentiated more or less than the opposing group. Descriptive statistics show that the mean answer for the majority of the survey questions completed by the participants who could identify the GATE students was higher than the participants who could not identify the GATE students. There were three survey questions that showed the opposite. The data are shown in Table 3.

Table 3. Gate Identification

Survey Question	Mean[a]	Mean[b]
1: Teaching Strategies	3.4286	3.1111
2: Teaching Strategies	3.6190	3.7778
3: Teaching Strategies	3.3810	2.4444
4: Student Resources	3.0000	2.8889
5: Teaching Strategies	3.9048	3.5556
6: Student Grouping	3.6190	3.0000
7: Curriculum Pacing	3.0952	3.0000
8: Student Assignments	3.1429	2.7778
9: Teacher Strategies	4.1429	3.5556
10: Student Assignments	2.8571	2.8889
11: Student Assignments	3.0476	2.5556
12: Student Assignments	3.4286	3.1111
13: Student Assignments	3.7143	3.2222
14: Student Assignments	3.2381	3.2222
15: Student Assessments	3.3333	3.1111
16: Student Assessments	3.7619	3.8889
17: Student Assessments	3.2381	3.0000

[a]Participants that can identify their GATE students, n=21

[b]Participants that can not identify their GATE students, n=9

CHAPTER FIVE

CONCLUSIONS AND RECOMMENDATIONS

After completing research about differentiated instruction and doing a study about the implementation of it in the classroom, there has been numerous interesting conclusions that have surfaced. Based on prior research differentiated instruction has been around for quite a long time, however, it is still not being implemented within the classroom as much as it should be. There is also research that has been done that demonstrates how successful it is when implemented properly. However, based on the findings reported here, differentiated classrooms are only found slightly more often than traditional classrooms. This leads to the belief that about half of the time GATE students are not being challenged and might not be learning at all since they do come into every grade level knowing on average 50% of the curriculum before the school year even begins (Rogers, 1991).

It is even more troubling to know that 9 out of 30 (30%) participants cannot even identify the students in their class that are GATE. Teachers in today's society are not even getting to know their students. In order for

instruction to be meaningful the teacher should know at least some of the students' background, especially their learning needs. Gifted students learn differently than the general population and the teacher should be able to identify them.

Once the GATE students and any other special needs students are identified, differentiated instruction needs to be taking place. This strategy does take slightly more planning time, however, when the effects are proven by data to be successful the time should be taken by the teacher. Teachers came into the profession planning on teaching all students and that is what they should continue to do.

Data do demonstrate that participants that are credentialed differentiate instruction more often than participants that do not have a credential, therefore, at least the preparation that educators go through is slightly beneficial. Many times people claim that credentialing classes are a waste of time, however, based on the research that has been done that statement has been proven wrong.

The research that has been done has revealed some interesting findings, however, it has also surfaced numerous findings that need to have further research done on them.

In the future, there should be research done including a larger sample size. Comparative statistical analyses were minimal due to such a small sample size. With further research, a larger sample would be helpful to determine if the data that have been found is accurate in other demographic areas and with other participants.

Further research should also be done to determine how many teachers really do know their students' needs. A study should be done asking educators which students are GATE and have the educator come up with a list and compare that with the actual GATE list, which would be much more accurate than teacher opinionated data.

Another area that could reveal interesting results is by focusing on teachers who have recently received their credentials compared to teachers who have had their credentials for a long period of time. This information would enable the researcher to determine if university credentialing classes are being more or less effective than in the past about teaching how to use differentiated instruction. The survey used in this study should be given to a group of students that have just completed the credentialing process and the results should be analyzed.

It is also observed that there were a lack of African American participants. Finally future research should be done including these members to resemble the general population of teachers as closely as possible.

APPENDIX

DIFFERENTIATED INSTUCTION SURVEY

Background Information

Name (optional):_____

Age: 21-30 31-40 41-50 51-60 61-70 71-80

Gender: Male Female

Ethnicity: Caucasian Hispanic Asian African-American Other

Do you have a credential: yes no

Do you have a CLAD certificate: yes no

Do you have a GATE certificate: yes no

Can you identify the GATE students in your class? yes no

Classroom Practices Inventory (Heacox, 2002, p. 19)

Use this inventory to look at what you are already doing in your classroom to differentiate instruction. Circle the number on the continuum that show where your current teaching practices lie. Use the following numbers as a guide.

1=The description of a traditional classroom fits me well.
2=The description of a traditional classroom fits me most of the time.
3=Both descriptions fit me equally.
4=The description of a differentiated classroom fits me most of the time.
5=The description of a differentiated classroom fits me well.

Traditional classroom:				*Differentiated Classroom:*
1.) Covering the curriculum is my first priority and directs my teaching.	1	2	3	4	5	I base my teaching on students' learning needs as well as on the curriculum.
2.) Learning goals remain the same for all students.	1	2	3	4	5	Learning goals are adjusted for students based on their needs.
3.) I emphasize mastery of content and skills.	1	2	3	4	5	I emphasize critical and creative thinking and the application of learning.
4.) Students use the same informational resources (books, articles, web sites).	1	2	3	4	5	I match students to specific informational resources based on their learning needs and abilities.
5.) I primarily use whole-class instruction.	1	2	3	4	5	I use several instructional formats (for example, whole class, small groups, partners, individuals).

6.)

I tend to group students heterogeneously. — As appropriate, I group students for instruction based on their learning needs.

1 2 3 4 5

7.)

All students move through the curriculum together and at the same pace. — The pace of instruction may vary, based on students' learning needs.

1 2 3 4 5

8.)

All students complete the same activities. — As appropriate, I give students opportunities to choose activities base on their interests.

1 2 3 4 5

9.)

I tend to use similar instructional strategies day to day. — I use a variety of instructional strategies (for example, lectures, manipulatives, role plays, simulations, readings).

1 2 3 4 5

10.)

All students complete all activities. — Students complete different activities based on their needs or learning preferences.

1 2 3 4 5

11.)

All students are involved in all instructional activities — I use methods for testing out of work and for compacting (speeding up, eliminating, replacing) work, as appropriate.

1 2 3 4 5

12.)

My enrichment work provides more content or more application of skills. — My enrichment work demands critical and/or creative thinking and the production of new ideas, thoughts, and perspectives.

1 2 3 4 5

13.)

In reteaching, I provide more practice using a similar instructional method. — In reteaching, I use a different Instruction methods from the one I used to teach the material the first time.

1 2 3 4 5

14.)

My reteaching activities typically involve lower-level thinking-knowledge and comprehension-to reinforce basic skills and content.

My reteaching activities demand higher-level thinking while reinforcing basic skills and content.

1 2 3 4 5

15.)

I assume that students have limited or no knowledge of curriculum content.

Before beginning a unit, I use preassessment strategies to determine what students already know.

1 2 3 4 5

16.)

I usually assess students' learning at the end of an instructional sequence.

I use ongoing assessment to check students' learning throughout an instructional sequence.

1 2 3 4 5

17.)

I typically use the same assessment tool, product, or project for all students.

I allow for learner differences by providing a variety of ways to show learning.

1 2 3 4 5

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